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Technical problem The settlement system using new electronic money is provided. **Means for Solution** A settlement system concerning this invention is provided with an electronic money issuing means which publishes electronic money according to payment from a customer. This electronic money issuing means makes electronic money containing a part for a premium determined according to the amount of payment publish. The amount of premium corresponds to that as which a customer chose freely below a premium rate beforehand set up as upper

limit. It may have a cash settlement means to discount a part for a settlement rate from electronic money, and to exchange for cash. Exchange transactions of this electronic money itself, futures trading, call market trading, an option transaction, and a swap transaction are also realizable.

Claim(s)

Claim 1A settlement system using electronic money, wherein it has an electronic money issuing means which publishes electronic money according to payment from a customer and said electronic money issuing means makes electronic money containing a part for the amount of payment, and a selected premium publish.

Claim 2A settlement system using the electronic money according to claim 1, wherein it is based on selection below a premium rate set up beforehand by the amount of said premium.

Claim 3A settlement system said settlement system has a customer account memory measure which manages and memorizes information on electronic money published to a customer for every customer, and using the electronic money according to claim 1.

Claim 4 Said settlement system is provided with a cash settlement means to discount a part for a settlement rate from electronic money, and to exchange for cash further, and said settlement rate, A settlement system using the electronic money according to claim 1 deciding that it will be the total amount of electronic money published at least based on issue *****.

Claim 5A settlement system using the electronic money according to claim 4, wherein said settlement rate is determined by the following formula.

Settlement rate (%) = {(electronic money issued amount-issue *****) /issue *****} x100 **Claim 6A** settlement system using the electronic money according to claim 4 or 5 having a means to distribute information about said total issue electronic money amount, and information about said issue *****.

Claim 7A settlement system characterized by comprising the following using the electronic money according to claim 1.

A means for said settlement system to receive information about exchange transactions of electronic money from a customer further, and to register.

A means to perform exchange transactions based on the exchange-transactions information concerned.

Claim 8A settlement system characterized by comprising the following using the electronic money according to claim 1.

A means for said settlement system to receive information about futures trading of electronic money from a customer further, and to register.

A means to perform futures trading based on the futures trading information concerned.

Claim 9A settlement system characterized by comprising the following using the electronic money according to claim 1.

A means for said settlement system to receive information about call market trading of electronic money from a customer further, and to register.

A means to perform call market trading based on the call-market-trading information concerned.

Claim 10A settlement system characterized by comprising the following using the electronic money according to claim 1.

A means for said settlement system to receive information about an option transaction of electronic money from a customer further, and to register.

A means to perform an option transaction based on the option transaction information concerned.

Claim 11A settlement system characterized by comprising the following using the electronic money according to claim 1.

A means for said settlement system to receive information about a swap transaction of electronic money from a customer further, and to register.

A means to perform a swap transaction based on the swap transaction information concerned.

Claim 12 Means of settlement characterized by comprising the following using electronic money.

A step which computes a part for a premium determined with a premium rate which has an electronic money issue step which publishes electronic money according to payment of cash from a customer, and as which the electronic money issue step concerned is chosen.

A step which publishes electronic money according to the computed result concerned.

Claim 13 Means of settlement using the electronic money according to claim 12, wherein the amount of said premium chooses below a premium rate set up beforehand.

Claim 14 Means of settlement using the electronic money according to claim 12, wherein said means of settlement are provided with a step which discounts a part for a settlement rate from electronic money, and is further exchanged for cash and said settlement rate is determined based on the total amount and the issue ***** concerned of electronic money published at least.

Claim 15 Means of settlement using the electronic money according to claim 14, wherein said settlement rate is determined by the following formula.

Settlement rate (%) = {(amount of issue electronic money-issue *****) /issue *****} x100 **Claim**

16 Means of settlement using the electronic money according to claim 14 or 15 having a step which distributes information about said total issue electronic money amount, and information about said total payment amount.

Claim 17 Means of settlement characterized by comprising the following using the electronic money according to claim 12.

A step which said means of settlement receive information about exchange transactions of electronic money from a customer further, and is registered.

A step which performs exchange transactions based on the exchange-transactions information concerned.

Claim 18 Means of settlement characterized by comprising the following using the electronic money according to claim 12.

A step which said means of settlement receive information about futures trading of electronic money from a customer further, and is registered.

A step which performs futures trading based on the futures trading information concerned.

Claim 19 Means of settlement characterized by comprising the following using the electronic money according to claim 12.

A step which said means of settlement receive information about call market trading of electronic money from a customer further, and is registered.

A step which performs call market trading based on the call-market-trading information concerned.

Claim 20 Means of settlement characterized by comprising the following using the electronic money according to claim 12.

A step which said means of settlement receive information about an option transaction of electronic money from a customer further, and is registered.

A step which performs an option transaction based on the option transaction information concerned.

Claim 21 Means of settlement characterized by comprising the following using the electronic money according to claim 12.

A step which said means of settlement receive information about a swap transaction of electronic money from a customer further, and is registered.

A step which performs a swap transaction based on the swap transaction information concerned.

Detailed Description of the Invention

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The technical field to which an invention belongs Especially this invention relates to the settlement system of the electronic money used by the electronic commerce technology and online financial transactions on the Internet about the settlement system of electronic money.

0002

Description of the Prior Art There is a method of using the IC card by which electronic money was stored in one of the settlement systems of the electronic money proposed now. In this method, when consumers purchase goods at a retail store using the account balance published by the predetermined bank and the IC card in which electronic worth (electronic money) of the same amount was stored, they can use it. The used electronic money will be pulled down from an account. Among consumers, this electronic money can be exchanged by apparatus like a calculator called Wallet, and it has distributivity. The mechanism in which it can respond also to the electronic commerce technology on the Internet is adopted. However, there is a problem that the initial investment of the infrastructure building for it is large.

0003 On the other hand, the way a specific commissioned company publishes CyberCoin with backing of the balance in account of the consumers who have established the account is also proposed. This CyberCoin

(frequency data) is stored in a personal computer (a personal computer, PC) via the Internet. At the time of merchandise purchase, the frequency data is sent to a retail store. A retail store sends the used frequency data to an above-mentioned commissioned company. The commissioned company concerned requests an account transfer with consumers' correspondent bank and the correspondent bank of a retail store from both banks.

0004

Problem(s) to be Solved by the InventionThe purpose of this invention is to provide the settlement system using new electronic money.

0005

Means for Solving the ProblemA settlement system concerning this invention is provided with an electronic money issuing means which publishes electronic money according to payment from a customer, and said electronic money issuing means makes electronic money containing a part for a premium determined according to the amount of payment publish.

0006The amount of said premium corresponds to that as which a customer chose freely below a premium rate beforehand set up as upper limit.

0007Said settlement system is provided with a cash settlement means to discount a part for a settlement rate from electronic money, and to exchange for cash further, and said settlement rate is wanted to be determined based on a frame and issue ***** of electronic money published at least.

0008And as for said settlement rate, it is preferred that the following formula is determined.

Settlement rate (%) = {(amount of issue electronic money-issue *****) / issue *****} x100 **0009**It may be made to have a means to distribute information about said amount of issue electronic money, and information about said issue *****.

0010Said settlement system is provided with the following.

A means to receive and register information about exchange transactions of electronic money from a customer.

A means to perform exchange transactions based on the exchange-transactions information concerned.

0011Said settlement system is provided with the following.

A means to receive and register information about futures trading of electronic money from a customer.

A means to perform futures trading based on the futures trading information concerned.

0012Further, said settlement system may receive information about call market trading of electronic money from a customer, and may be provided with a means to register, and a means to perform call market trading based on the call-market-trading information concerned.

0013Further, said settlement system may receive information about an option transaction of electronic money from a customer, and may be provided with a means to register, and a means to perform an option transaction based on the option transaction information concerned.

0014Further, said settlement system may receive information about a swap transaction of electronic money from a customer, and may be provided with a means to register, and a means to perform a swap transaction based on the swap transaction information concerned.

0015On the other hand, means of settlement concerning this invention are provided with the following.

A step which computes a part for a premium determined according to a premium rate which has an electronic money issue step which publishes electronic money according to payment of cash from a customer, and as which the electronic money issue step concerned was chosen.

A step which publishes electronic money according to the computed result concerned.

0016Said means of settlement are provided with a step which discounts a part for a settlement rate from electronic money, and is further exchanged for cash, and said settlement rate may be made to be determined as a frame of electronic money published at least based on the issue ***** concerned.

0017Said settlement rate is wanted to be determined by the following formula.

Settlement rate (%) = {(amount of issue electronic money-issue *****) / issue *****} x100**0018**It may be made to have a step which distributes information about information about said amount of issue electronic money, information about said issue ***** , and said settlement rate.

0019Next, information about exchange transactions of electronic money is received from a customer, and it may be made to have a step to register and a step which performs exchange transactions based on the exchange-transactions information concerned.

0020Next, information about futures trading of electronic money is received from a customer, and it may be made to have a step to register and a step which performs futures trading based on the futures trading information concerned.

0021Information about call market trading of electronic money is received from a customer, and it may be made to have a step to register and a step which performs call-market trading based on the call-market-trading information concerned.

0022Information about an option transaction of electronic money is received from a customer, and it may be made to have a step to register and a step which performs an option transaction based on the option transaction information concerned.

0023Information about a swap transaction of electronic money is received from a customer, and it may be made to have a step to register and a step which performs a swap transaction based on the swap transaction information concerned.

0024

Embodiment of the Invention Drawing 1 is a figure showing the outline of the secondary market of the electronic money by the settlement system concerning this invention. As shown in a figure, in the secondary market of this electronic money, the e-commerce market 3 on the settlement mechanism 1, the financial institution 2, and the Internet and the electronic financial market 4 on the Internet are included. Between the settlement mechanism 1 and the financial institution 2, issue and settlement of electronic money are performed. The commercial transaction using electronic money is performed between the financial institution 2 and the e-commerce market 3 on the Internet. The financial transaction using electronic money is performed in the online-financial-transactions commercial scene 4 on the financial institution 2 and the Internet. The electronic commerce technology which the settlement system concerning this invention can apply may be B to B also in B to C.

0025Drawing 2 is a system configuration figure of the settlement system concerning this invention. As shown in a figure, this settlement system comprises the server 11 of a settlement mechanism, the database 12 and the server 21 of a financial institution, its database 22, the terminal 31 of the company A, the terminal 32 of the company B, and the communications network 4.

0026The server 11 of the settlement mechanism comprises various control programs stored in the control section 111, the WEB engine 112, and a memory and a hard disk. The control section 111 comprises a CPU, a ROM, RAM, etc., and has the function to perform control of this server. The WEB engine 112 has a function which transmits a web page to the terminal 31 grade of the company A. The customer-data-management processing program 113, the electronic money issue processing program 114, the electronic money settlement processing program 115, and the electronic money unjust check processing program 116 are contained in the various control programs concerned. The customer-data-management processing program 113 makes the control section 111 mainly perform processing about a customer's registration. The electronic money issue processing program 114 makes the control section 111 mainly perform processing about issue of electronic money. The electronic money settlement processing program 115 makes the control section 111 mainly perform processing about settlement of electronic money. The electronic money unjust check processing program 116 makes the control section 111 mainly perform processing about the unauthorized use of electronic money.

0027The database 12 has customer-data-management DB121 and customer account dealings DB122 at least. Customer-data-management DB121 stores the customer data registered by the customer-data-management processing program 113. Customer account dealings DB122 stores the transaction information of the electronic money in a customer's account.

0028The server 21 of the financial institution comprises various control programs stored in the control section 211, the WEB engine 212, and a memory and a hard disk. The control section 211 comprises a CPU, a ROM, RAM, etc., and has the function to perform control of this server. The WEB engine 212 has a function which transmits a web page to the terminal 31 grade of the company A. The exchange-transactions processing program 213, the call-market-trading processing program 214, the futures trading processing program 215, the option transaction processing program 216, and the swap processing program 217 are contained in the various control programs concerned. The exchange-transactions processing program 213 has the function to make the control section 211 mainly perform processing about the exchange transactions of electronic money. The call-market-trading processing program 214 has the function to make the control section 211 mainly perform processing about call market trading of electronic money. The futures trading processing program 215 has the function to make the control section 211 mainly perform processing about futures trading of electronic money. The option transaction processing program 216 has the function to make the control section 211 mainly perform processing about the option transaction of electronic money. The swap processing program 217 has the function to make the control section 211 mainly perform processing about the swap transaction of electronic money.

0029Exchange-transactions information DB221, call-market-trading information DB222, futures trading information DB223, option transaction information DB224, and swap transaction information DB225 are contained in the database 22. Exchange-transactions information DB221 stores the information about the exchange transactions of electronic money. Call-market-trading information DB222 stores the information about call market trading of electronic money. Futures trading information DB223 of electronic money stores the information about futures trading of electronic money. Option transaction information DB224 stores the information about the option transaction of electronic money. Swap transaction information DB225 stores the information about the swap transaction of electronic money.

0030Both the terminal 31 of the company A and the terminals 32 of the company B are computer terminals, such as a personal computer, It has a memory measure etc. which memorize the input means of the output

means of control means, such as CPU, a display, etc., a mouse, a keyboard, etc., a program, data, etc., and the browser is stored especially in the memory measure.

0031The communications networks 4 are communications networks, such as the Internet, a public network, and a dedicated line.

0032Next, it outlines that the electronic money built over this invention using drawing 4 flows. creation and management of electronic money, and the person himself/herself -- public key encryption is used for issue of certificates, such as *****. First, a settlement mechanism publishes electronic money to the customer appointed bank. A customer performs attestation and a registration request to attestation and a registration agency. attestation and a registration agency -- the person himself/herself -- a certificate of attestation is published to a customer. And a customer purchases electronic money from the customer appointed bank. A customer can transfer electronic money to other customers. When a sales transaction is materialized among companies, electronic money is remitted to the company. A company sells off and encashes the electronic money concerned to the company appointed bank, or pays a self bank account. The company appointed bank settles this electronic money among settlement mechanisms. A settlement mechanism judges whether the electronic money concerned is just with an identification number (it is distinguished whether the issue bill published and was settled before), and if there is an unauthorized use, it specifies an unauthorized use person through attestation and a registration agency.

0033Then, issue of electronic money and a financial institution are explained. In establishing a transaction account to a settlement mechanism, financial institutions, such as a bank, do not need to stack an allowance with electronic money like the Bank of Japan, but they mainly prepare issue ***** at the time of issue for the bank account specified by a settlement mechanism. A settlement mechanism exchanges and publishes the issue contract of each financial institution and electronic money. The electronic money with which the settlement mechanism published the main meanings of the contractual coverage to each financial institution promises future repurchase. At the time of issue, for privacy protection (in order to make improper pursuit of a data on shoppers' browsing and buying habits, correlation with electronic money and the real name of a financial institution is prevented), a financial institution does a blind signature to the bank specified by a settlement mechanism, and is given by the issuance request document at it. The published electronic money can perform original employment of a financial institution, and assumes circulating in a financial market. And a settlement mechanism performs management of issued amount, an issue premium rate, issue *****, and an identification number. The flow of the issue processing of the electronic money in a settlement mechanism, a financial institution, and the appointed bank is shown in drawing 5. As shown in a figure, a financial institution sends transfer and the issuance request document of issue ***** to the appointed bank first. The appointed bank performs a blind signature in an issuance request document, and performs the credit advice of this issue ***** to a settlement mechanism. In response to this credit advice and an issuance request document, a settlement mechanism publishes electronic money to the financial institution concerned.

0034Here, the financial institution has requested issue of electronic money from a settlement mechanism according to the premium rate which the settlement mechanism presented. Here, suppose that the unit of the electronic money used in the settlement system concerning this invention is called a "credit." This premium rate only has upper limit, and the financial institution can choose less than it freely. A settlement mechanism takes terms and conditions into consideration, and this upper limit gives a determination notice in a financial institution. For example, upper limit is made into 8%. If 2 million yen pays in and 5% of premium is chosen, it will become $0.05 = 2 \text{ million yen} \times 100,000 \text{ credit}$, and a total of 2 million yen $x(1+0.05) = 2,100,000 \text{ credit}$ will be published by the financial institution.

0035The client registration (chiefly financial institution) in the settlement system concerning this invention and the issue processing of electronic money are explained. In order to perform client registration, required information is first transmitted via the communications network 4 from the self-terminals 31 and 32 of a financial institution. Required information is stored in customer-data-management DB121 by the customer-data-management processing program 113 of the server 11 of a settlement mechanism. As shown in drawing 3, a financial institution name, financial institution ID, an account number, an address, E-mail (e-mail address), etc. are included in required information.

0036A settlement mechanism does balance management from an outstanding balance of issue amount and the issue ***** balance per customer account of each financial institution. The issued amount at the time of issue, issue *****, the premium rate, and the identification number are recorded on customer-data-management DB122. On the other hand, the settlement request amount of money (electronic money), a settlement amount (cash) and a settlement rate, and an identification number are recorded on customer account DB122 at the clearing time. Actually, the identification number of the settled electronic money is deleted from customer account DB122, and is another managed. It is because it can be distinguished as having been copied unjustly if there is no electronic money copied unjustly (electronic money can be copied) in the clearing time and there is no identification number of the electronic money concerned in customer account DB122.

0037Here, the example of the purchase of an electronic money user is explained using drawing 6. First, the user

who wishes the purchase of electronic money registers with attestation and a registration agency. attestation and a registration agency check and do the digital signature of the contents of registration from a user (a public key, a real name, etc.) -- the person himself/herself -- a certificate of attestation is sent. And the user can purchase electronic money from the freely selected financial institution. A user does a digital signature to a purchase written request, and gets a financial institution with an account to return it. Next, a user sends a person-himself/herself certificate of attestation to a purchase place financial institution together as a purchase written request. A purchase place financial institution checks that a user's financial institution has signed the purchase written request, and sells off electronic money. Payment of sale is remitted to a purchase place financial institution from a user's account.

0038a registry in / here / a user's attestation and registration agency, and the person himself/herself -- drawing 7 explains the issue processing of a certificate of attestation. A user transmits required information via the communications network 4 from the self-terminal 3 first. Required information is stored in customer-data-management DB121 by the customer-data-management processing program 113 of the server 11 of attestation and a registration agency. It is ID (for example, license number) etc. which a real name, an address, age, a public key, and the independent organization that can carry out personal identification publish in required information. It publishes with a digital signature by the authenticating processing program 114 to a person-himself/herself certificate of attestation (with a public key), and the issuance history is stored in certification information DB122.

0039 Drawing 8 explains the payment of electronic money. the case where a user pays electronic money as a payment system -- the person himself/herself with a signature of electronic money, and attestation and a registration agency -- a certificate of attestation is sent to a recipient. The electronic money concerned is not copied unjustly or a recipient checks to the settlement mechanism which is an issuing agency. A settlement mechanism investigates whether the identification number is published before. If published, it will be recognized as having been copied unjustly. If satisfactory, it will encash in a financial institution or will deposit.

0040 Then, electronic money and exchange business are explained. The electronic money move at the time of dealing by the electronic money between general customers or transfer is direct. Since it is an open-loop type, by the time it carries out final settlement of accounts from having **** distributivity, it will not flow back to a financial institution. Netting which is offset of the claim and debt between companies will progress. Here, when two or more dealings by electronic money exist, netting offsets the claim and debt produced by two or more dealings, and means settling only the claim and debt of the difference (network).

0041 On the other hand, when an inter-bank account transfer occurs, it is at the financial institution without account to electronic money purchase / sale-time. Therefore, it is thought that a possibility of usual failing to lengthen and processing transfer, deposit, etc. and that exchange business will be performed frequently now is low.

0042 Then, the cash settlement of the electronic money in the settlement system concerning this invention is explained. If the frame of electronic money was replaced with cash as it was when encashment of electronic money was demanded by each financial institution since a premium was given as mentioned above to this electronic money, shortage of the cash for settling accounts arises. It is because the face value of electronic money is larger than the amount of payment. So, in this settlement system, we decided to discount and settle a part for a premium.

0043 However, since the electronic money by which a settlement request is carried out from each financial institution is freely chosen in the premium rate at the time of issue, it cannot judge what% of premium is given.

0044 So, in the settlement system concerning this invention, we decided to determine a settlement rate as follows at the time of issue.

Settlement rate (%) = {(electronic money issued amount-issue *****) / issue *****)} x 100**0045** Here, a "settlement rate" means the rate discounted when settling electronic money. "Electronic money issued amount" is a frame of the electronic money which a settlement mechanism publishes to a financial institution. "shot line -- it sees and partnership gold" means the fund for the electronic money issue received by the bank account specified by a settlement mechanism. In explanation of this embodiment, the exchange rate of encashment of electronic money is called settlement rate (it was decided at the time of issue and applies only at the time of encashment of electronic money) between each financial institution and a settlement mechanism.

0046 It becomes a settlement rate <= maximum premium rate from this formula. In an above-mentioned example, a settlement rate will be 8% or less. If this point is illustrated, it can express like drawing 9. That is, the sum of issue premium amount and the issue ***** amount of money can express the amount of issue electronic money.

0047 supposing the electronic money which settles a settlement rate 6% is 2,100,000 credits -- 2,100,000 credit / (1+0.06) = -- 1,981,000 yen encashes.

0048 In order to secure transparency, the present amount of an outstanding balance of issue amount, issue **** balance fund, and settlement rate of each financial institution are always released, it distributes to each terminals 31 and 32 via the communications network 4, and the customer can peruse.

0049The following tendencies can be predicted from the formula for computing the above-mentioned settlement rate.

**** ->** with a low settlement rate -- **->** with high ****** settlement rate with little published premium amount -- there is much published premium amount, and when electronic money is settled in cash basis, as shown in drawing 10, the payment and the electronic money of the part will be offset, but the settlement rate is constant unless additional issue is carried out. For example, when 800,000 credits of 5% of a settlement rate and 2 million yen are encashed on 2,100,000 credit, the prices of the $80/(1+0.05) = 762,000$ yen **->** remainder are 1,300,000 credits and 1,238,000 yen. $130/(1+0.05) =$ it is 1,238,000 yen and a settlement rate does not change.

0050A settlement rate changes for every reason which can do a multiple-times issuance request not only in 1 time in the financial institution, and issue. For example, if the 1st time : premium rate 3% and issue ********* of 1 million yen becomes, it will be 3% of a settlement rate in issued amount 1,030,000CR (credit).

If the 2nd time : premium rate 5% and issue ********* of 2 million yen becomes, it will be 4.3% of a settlement rate in issued amount 2,100,000CR (credit).

This becomes the same as 3,130,000CR having been published at issue ********* of 3 million yen, and premium rate 4.3%. In this meaning, a settlement rate will be the same as the weighted-average-ized premium rate.

Here, if lessons is taken from a premium rate, a settlement rate, etc. and expression expression is carried out, it can express as follows.

0051

Equation 1

 ID=000003

0052Next, settlement of accounts and financial institution of electronic money are explained. A settlement mechanism is requested when a financial institution settles electronic money on hand. A settlement mechanism transfers considerable cash from issue *********, and adjusts an outstanding balance of issue amount etc. Therefore, it does not respond for the settlement request exceeding issue ********* fundamentally. Forgery and an unauthorized use of the electronic money which flowed back are checked. As shown in drawing 11, specifically, a financial institution performs a settlement request to a settlement mechanism first. A settlement mechanism does transfer instruction to the appointed bank. A settlement mechanism performs the notice of settlement of accounts to a financial institution. And the appointed bank transfers a settlement amount to a financial institution.

0053Electronic money concerning this invention can be realized to be a thing with cash and an exchange rate. Although encashed at the clearing time according to a settlement rate, if a view is changed, a settlement rate actually expresses an exchange rate to cash of electronic money. On the other hand, a settlement rate expresses an exchange rate to electronic money of cash like **definition / the** a premium rate at the time of issue. This resembles an exchange rate of a dollar and a circle. Electronic money which electronic money known by the present from this requires for this invention although exchange with cash is 1 to 1 is exchange of 1 to X. Each financial institution has an original settlement rate. When dealing in electronic money to a general customer (an individual, a legal entity), several percent is adjusted to this settlement rate, and profits are obtained. For example, a settlement rate obtains electronic money of 1,050,000 credits for 1 million yen at 5%.

(1) If a financial institution makes a selling point of 4% when selling to a user with 1 million yen, profits of 10,000 credits will remain on 1,040,000 credit 1 million yen.

(2) If a financial institution buys it with 6% when you buy it from a user who is as 1,040,000 credit $100 / (1 + 0.06) = 98,100$ yen profits remain for 981,000 yen.

This is equivalent to TTS and TTB which a financial institution shows by foreign exchange, respectively. From this, each financial institution can consider that an exchange market for electronic money similar to a foreign exchange market accompanied by dealing of electronic money by demand and dealing by self is needed. By this, the financial institution can expect a charges-for-remittance income, and a general customer will get incentive electronic money with which a part for a premium by TTSS was added at the time of purchase. Of course, when encashing, a part for a premium by TTB will be discounted.

0054Then, suppose that cash between each financial institution and a general customer and an exchange rate of a credit are called an exchange rate (decided like a middle rate of a foreign exchange market in a commercial scene). This exchange rate serves as an index of an exchange market. Then, a settlement mechanism introduces average settlement rate (%) = $\{ \text{the issue total amount of the amount of the balance-issue} \times 100 / (\text{the issue total amount of the balance to all the financial institutions and the amount of the issue} \times 100) \}$ balance which are customers.

0055Next, an exchange market of electronic money concerning this invention is explained. If an average settlement rate which a settlement mechanism announces is made into a formal exchange rate, an actual situation exchange rate can be set up from electronic money dealt with among each financial institution. Exactly, an exchange rate decided in a foreign exchange market hits this. An actual situation exchange rate is decided as selling price TTS and the purchase price TTB which a financial institution shows to a general customer arising from an interbank rate (inter-bank rate) in Tokyo foreign exchange market by this. The purchase price and a selling price which a financial institution presents will arise from an exchange market, this is shown to a customer, and dealing of cash and electronic money is performed. A flow of a foreign-exchange-dealings commercial scene is shown in drawing 12.

0056Next, issue of the electronic money concerned and a fee of settlement of accounts are explained. First, an opening commission is explained. A financial institution requests issue of electronic money from a settlement mechanism according to a selected premium rate, and pays an opening commission. Next, a financial institution shows a general customer a selling price (TTS). A general customer chooses and purchases TTS of the highest financial institution.

0057Next, a settlement-of-accounts fee is explained. A financial institution shows a general customer the purchase price (TTB). The customer can choose TTB of the lowest financial institution. According to a settlement rate, a financial institution requests settlement of electronic money from a settlement mechanism, and pays a settlement-of-accounts fee.

0058Next, TTS and TTB are explained. Generally financial institution of TTS is lower than an interbank rate, and TTB is set up highly. As for a financial institution, it is completely arbitrary which premium rate is chosen. For this reason, although TTS and TTB will be advantageously set as a financial institution arbitrarily and a buyer and a seller tend to be expected to become disadvantageous, each financial institution comes to present original TTS and TTB, and it is thought that a principle of competition works.

0059Furthermore, a premium rate is explained. As shown in drawing 13, when the premium rate with the same amount of payment chosen but is different, issued amount is also different naturally. As a result, TTS and TTB which each financial institution presents differ from each other. for a user -- 100,000 credits -- buying it -- B bank and sale become advantageous **A bank**. If arbitration progresses, it will settle in to some extent appropriate TTS and TTB, and it is thought that each financial institution of a big difference to a rate is lost. It is thought that a big difference also of a premium rate to choose is lost according to it.

0060Next, futures trading (forward: Forward) of electronic money is explained. An exchange rate of electronic money in a settlement system concerning this invention is updated by exchange market every day. At present, although it is not necessary to cash-settlement-ize, suppose that a case which must be settled is in one month. Since a loss may be received if an exchange rate goes up from now then, a customer wants to carry out a risk hedge. Conversely, profits may be obtained if an exchange rate falls from now.

0061From this, futures trading (forward) of the same electronic money as an exchange contract which imitated an exchange rate in an exchange rate is proposed. For explanation of this invention, comparison with a case of a money order is shown in drawing 14. When exchange to a circle from a dollar is reserved in the case of a money order, if it will become profits if it becomes a weak yen, and it becomes a strong yen, loss will arise. When exchange to a dollar from a circle is reserved, if it becomes a weak yen, loss will arise, and it will become profits if it becomes a strong yen. On the other hand, when exchange to cash from electronic money is reserved in futures trading of electronic money in connection with this invention, if an exchange rate descends and profits will arise and go up, loss will occur. When exchange to electronic money from cash is reserved, if an exchange rate descends and loss will occur and go up, profits will arise.

0062For example, it is as follows supposing it changes while exchange rates are 2% - 8%.

(1) Change (2) which is the cash which is 2 million/(1+0.02) = 1,960,000 yen - 2 million/(1+0.08) = 1,850,000 when it is 2 million credits. In the case of 1,900,000 yen cash, it is change of $1,900,000 \times (1+0.02) = 1,930,000$ credit - $1,900,000 \times (1+0.08) = 2,050,000$ credit. **0063**Then, change of an exchange rate is explained. First, a case where cash is exchanged for electronic money using drawing 15 is explained. When purchasing electronic money for 1,900,000 yen, this example shows a case where an exchange rate is 5% in the center, and a case where a case where an exchange rate falls to 2% is gone up **left-hand side** to 8% is shown in right-hand side in it. As shown in a figure, when an exchange rate is 5%, it is able to exchange for 2 million credits and an exchange rate is 2%, it can exchange only for 1,930,000 credits. On the other hand, if an exchange rate goes up to 8%, it is exchangeable for 2,050,000 credits. That is, electronic money which can be purchased if an exchange rate becomes low decreases in number, and if an exchange rate becomes high, electronic money which can be purchased will increase.

0064Next, a case where electronic money is exchanged for cash using drawing 16 is explained. When exchanging 2 million credits for cash, this example shows a case where an exchange rate is 5% in the center, and a case where a case where an exchange rate falls to 2% is gone up **left-hand side** to 8% is shown in right-hand side in it. When an exchange rate is 5% and it is able to exchange for 1,900,000 yen, and an exchange rate is 8%, it can exchange **as shown in a figure**, only for 1,850,000 yen. On the other hand, if an exchange rate falls to 2%, it is exchangeable for 1,960,000 yen. That is, cash exchangeable if an exchange rate becomes low increases, and if an exchange rate becomes high, exchangeable cash will decrease in number.

0065Then, it explains using drawing 17 that futures trading flows. As shown in drawing 2, a customer registers into the server 21 of a financial institution a request to print out files which purchases electronic money by 2 million credits in one month from the self terminals 31 and 32 via the communications network 4 (S1). In the server 21, the reserved information concerned is stored in futures trading information DB223 with the futures trading processing program 214. At a bank, cash of 2 million credits is raised from the usual financial market (S2). And a bank purchases and employs electronic money for 2 million credits based on cash raised at Step S2 (S3). 2 million credits including a fee are sold to a customer one month after a day of a customer's forward contract (S4).

0066Next, an example of dealings will be explained further. The present settlement rate is made into 5% in this example. That is, it is 1 yen = 1.05 credit. 1 year **** interest rate = 0.05% and one-year thing credit interest rates = if 3%, it will become interest differential = $3 - 0.05 = 2.95\%$, and an interest differential for one month will be set to $0.025/12 = 0.00246$. Therefore, an exchange rate will be 4.7% on $1.05 \times (1 - 0.00246) = 1.047$ credit in one month.

0067(1) In one month, when it is expected that a settlement rate falls and cash is held, these dealings can be utilized for a risk hedge. That is, in the present 1,900,000 yen cash, electronic money can be purchased by $1,900,000 \text{ yen} \times (1+0.05) = 1,995,000$ credit. Then, a request to print out files which purchases a credit in one month is performed. When a settlement rate falls to 3% in one month, it means that and a loss was actually hedged by request to print out files rather than $1,900,000 \text{ yen} \times (1+0.03) = 1,957,000$ credit which can purchase $1,900,000 \text{ yen} \times (1+0.047) = 1,989,000$ credit, and can be purchased by an effective rate. On the other hand, speculation is possible when electronic money is held. if it settles in cash basis with the present settlement rate when electronic money of for example, 2 million credits is held -- 2 million credit / $(1+0.05) =$ -- it is made to 1,904,000 yen. Then, a request to print out files which sells 2 million credits in one month is performed. if a settlement rate actually falls to 3% in one month -- an effective rate -- 2 million credit $\times (1+0.03) =$ -- although it changes to 1,941,000 yen -- the request to print out files concerned -- 2 million credit $\times (1-0.047) =$ -- it changes to 1,910,000 yen. Therefore, 31,000 cyclotomy profits can be obtained by performing a forward contract.

0068(2) In one month, when it is expected that a settlement rate goes up and cash is held, speculation is possible. For example, supposing it holds 1,900,000 yen now, electronic money for 1,900,000 yen $\times (1+0.05) = 1,995,000$ credit can be purchased. Then, a request to print out files which purchases a credit in one month is made. By an effective rate, if a settlement rate goes up to 6% in one month, although it becomes $1,900,000 \text{ yen} \times (1+0.06) = 2,014,000$ credit, electronic money for $1,900,000 \text{ yen} \times (1+0.047) = 1,989,000$ credit can actually be purchased by request to print out files. Therefore, it can purchase mostly by 63,000 credits. On the other hand, a risk hedge can be carried out when electronic money is held. if electronic money will be settled in cash basis in 5% of the present settlement rate supposing it holds electronic money for 2 million credits -- 2 million credit / $(1+0.05) =$ -- 1,904,000 yen can be obtained. Then, a request to print out files which sells 2 million credits in one month is made. if a settlement rate actually goes up to 6% in one month -- an effective rate -- 2 million credit / $(1+0.06) =$ -- although it changes to 1,886,000 yen -- a request to print out files -- 2 million credit / $(1+0.047) =$ -- it changes to 1,910,000 yen and a loss is hedged.

0069In these futures trading, a fee can be imposed in dealings. When a fee is imposed, after also taking this fee into consideration, it is necessary to perform dealings.

0070In a settlement system concerning this invention, a premium by an exchange rate (TTS) given when purchasing electronic money serves as an incentive for demanding entry from an individual and a legal entity

which enter into electronic commerce technology. Those who demand encashment settlement of electronic money will pay this premium. This point is shown in drawing 18. Since a premium is given, those who are going to purchase electronic money become the crisis profit, and become an incentive of entry to electronic commerce technology. On the other hand, for those who demand encashment settlement of accounts, since a discount is given by an exchange rate (TTB) and accounts is settled, a fixed loss will arise. However, a profit is secured by improvement in a turnover of sales even if discount by an exchange rate occurs.

0071As a financial transaction, an option transaction is possible in addition to above-mentioned futures trading. That is, like currency options which perform an option transaction to a rise and descent of exchange rates between currency, such as a circle and a dollar, a circle, a pound, a settlement rate is initiated for an exchange rate and an option transaction between cash and electronic money is possible.

0072Like a floating rate of a circle, it decides on a floating rate of a credit between interbank one, and an interest rate swap of a credit as well as an interest rate swap of the usual circle is possible. Hereafter, drawing 21 explains an interest rate swap. Financing according according to / in A company / a floating rate / B company to a fixed rate is considered. By the way, B company can do supply only with the high level 2% company / A at a fixed rate. That is, a fixed rate difference is 2% and a floating rate difference is 1%. An interest rate swap halves 1% of a cost gap which lengthened a floating rate difference from this fixed rate difference by agreement of A company and B company (0.5% equal division), and exchanges a mutual fixed rate and a floating rate. First, A company exchanges 7% of a fixed rate, and B company exchanges 1.75% of a floating rate. As a result, $0.75 - 0.5 = 0.25\%$, it of B company will be $9 - 0.5 = 8.5\%$, and a borrowing rate of A company becomes advantageous from a swap or before.

0073Grant of a deposit interest rate is explained. By giving a premium to electronic money concerning this invention, a user will have attractiveness to consumers stimulated and charm will be sensed for purchasing and holding electronic money from a bank account. Therefore, it stops being one of the mere payment systems, and asset value will be formed if fixed held at all. Employment persons who manage this property and raise a profit are a financial institution and a division bank. So, a bank will give interest rates, in order to secure electronic money as a deposit. For example, supposing a bank attaches interest rates of 3% per year to 2 million credits of a customer, interest rates will become $0.03 = 200 \times 60,000$ credit. Therefore, a bank will transfer 60,000 credits for interest rates to a customer account one year after a deposit day.

0074Here, an exchange rate and interest rates are explained. Credit quantity can be defined as an exchange rate of a credit being low to a circle, and credit ** can be defined as an exchange rate of a credit being high to a circle. If it does so, relation between descent, a rise and credit high and credit ** of an exchange rate, and credit interest rates will become as drawing 19. Since a financial institution can choose a premium rate freely, it is based also on an opening commission, but it is thought that a higher premium rate is chosen. From this, an exchange rate of electronic money will rise and interbank interest rates soar. That is, it becomes credit **.

0075Excess and deficiency may produce a financial institution in quantity of a possession credit. In this case, a short-term debt-credit transaction of inter-bank electronic money and what is called call market trading are possible. In this case, interbank interest rates will occur.

0076A possibility that financial transactions including a dealing in futures and options of currency and interest rates of electronic money are secured, it combines with a settlement system as others, and circulation of electronic money can be promoted is high.

0077In order to deal with electronic money built over this invention at a store which does not cut a price by sale at suggested prices, since a premium rate is considered to be 0, the electronic money of an equivalent exchange should just discount a part for a premium. Then, although what is necessary is just to set a discount rate to TTS at the time of purchase, it is thought that the store side has good TTB when selling off received electronic money. Then, suppose that the store side receives electronic money by average value of TTB on the day and TTS to price. For example, at price of 100 yen, TTS on the day will be average value $= (3+5) / 2 = 4\%$, if TTB considers it as 5% 3%, and a user pays $100 = X / (1+0.04) \rightarrow X = 100 \times (1+0.04) = 104$ credit to a store. Convenience and distributivity increase in a basis of such a rule further by using this electronic money in exchange for price goods and the service. A rate is mutually decided to be also the payment between companies, and it can use for settlement of accounts.

0078Relation between a foreign currency exchange rate and an exchange rate of electronic money denominated in foreign currency is shown in drawing 20. By taking into consideration an exchange rate between currency of each country, and an exchange rate of electronic money denominated in foreign currency, the settlement mechanism can settle currency of which country. Therefore, cash paid in is received as mixed currency. Thereby, in electronic commerce technology on the Internet, settlement of accounts by electronic money denominated in foreign currency in connection with this invention is attained.

0079About electronic money concerning this invention, a settlement mechanism has published electronic money based on issue ***** from a financial institution as above. In that case, a financial institution specifies below a premium maximum that a settlement mechanism set up. And a maximum of a premium rate takes into consideration a commission rate of a credit card in the city, etc., and a settlement mechanism determines it.

From a financial institution, if it can ask for settlement of electronic money, a settlement mechanism will encash according to a settlement rate of each financial institution. on the other hand -- each financial institution follows an exchange rate to a general customer -- electronic money -- selling and buying : This electronic money is a network type suitable for settlement of a virtual Mall. It has an open-loop type which can be transferred to a third party, i.e., **** distributivity. a general customer registers a public key and a real name into attestation and a registration agency -- the person himself/herself -- a bond is published and got. Since interest rates are given for exchange transactions from an exchange rate, a financial transaction of interest rates and currency is possible. Although employment of issue ***** is also possible, the transparency of employment to a national bond is desirable. A settlement mechanism performs only issue, settlement of accounts, and management of electronic money, and banking, such as other loans, is operating companies who do not carry out. However, a possibility that bank license is needed for a chip box when an "electronic money method" is enacted as an issuing bank in the future is high.

0080

Effect of the InventionBy this invention, the settlement system using new electronic money can be provided.

Brief Description of the Drawings

Drawing 1It is a figure showing the outline of the secondary market of the electronic money in the settlement system concerning this invention.

Drawing 2It is a system configuration figure of the settlement system concerning this invention.

Drawing 3It is a figure showing the database of the server of the settlement mechanism concerning this invention.

Drawing 4It is a figure showing the flow of the electronic money concerning this invention.

Drawing 5It is a figure for explaining issue of the electronic money concerning this invention.

Drawing 6It is a figure for explaining the registration and purchase of the user of electronic money concerning this invention.

Drawing 7It is a figure showing the server and database of the attestation and the registration agency concerning this invention.

Drawing 8It is a figure for explaining the payment of the electronic money concerning this invention.

Drawing 9It is a figure for explaining the amount of issues of the electronic money in the settlement system concerning this invention.

Drawing 10It is a figure for explaining the offset relation between electronic money and cash concerning this invention.

Drawing 11They are the means of settlement of the electronic money of a settlement mechanism and a financial institution in the settlement system concerning this invention.

Drawing 12It is a figure showing the flow of the foreign-exchange-dealings commercial scene in this invention.

Drawing 13It is a figure for explaining the premium rate in this invention.

Drawing 14It is a figure showing comparison of the exchange rate in this invention, and an exchange rate.

Drawing 15It is a figure for explaining the futures trading in the settlement system concerning this invention.

Drawing 16It is a figure for explaining the futures trading in the settlement system concerning this invention.

Drawing 17It is a figure for explaining the futures trading in the settlement system concerning this invention.

Drawing 18It is a figure for explaining the grant of a premium and the comparison of discount of a premium in the settlement system concerning this invention.

Drawing 19It is a figure for explaining the exchange rate of a settlement system and the relation of interest rates concerning this invention.

Drawing 20It is a figure for explaining the currency exchange rate of each country and settlement rate in the settlement system concerning this invention.

Drawing 21It is a figure for explaining the swap transaction in the settlement system concerning this invention.

Description of Notations

4 Communications network 11 Server of a clearing bank 12 Database 21 Server of a financial institution 22 Database 31 and 32 A customer's terminal

Drawing 1

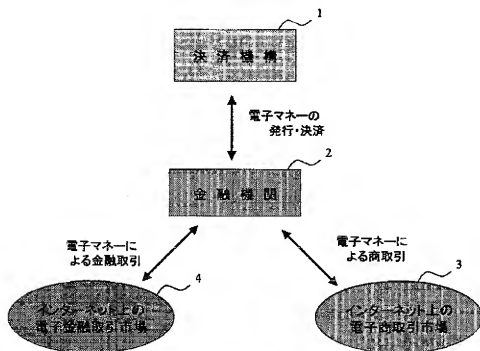
* NOTICES *

JP0 and INPIT are not responsible for any damages caused by the use of this translation.

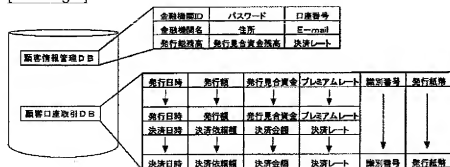
- 1.This document has been translated by computer. So the translation may not reflect the original precisely.
- 2.*** shows the word which can not be translated.
- 3.In the drawings, any words are not translated.

DRAWINGS

[Drawing 1]



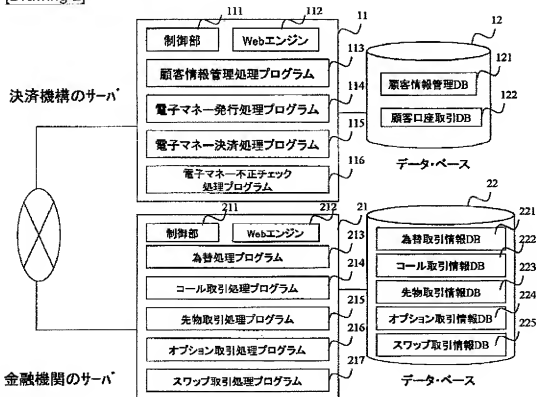
[Drawing 3]



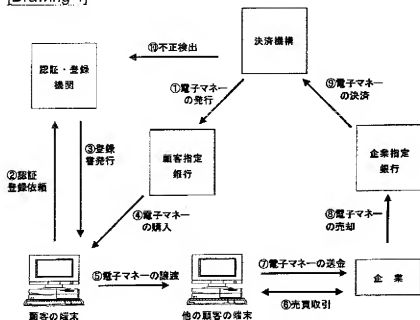
[Drawing 9]



[Drawing 2]



[Drawing 4]

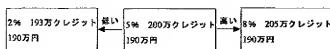


[Drawing 14]

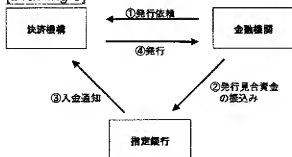
	円安	円高		交換レート の下落	交換レート の上昇
ドル→円	益	損	クレジット→現金	益	損
円→ドル	損	益	現金→クレジット	損	益

[Drawing 15]

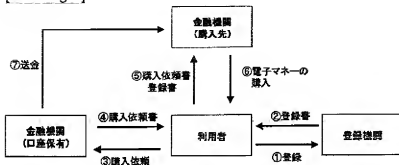
現金→クレジット



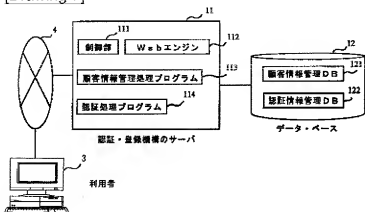
[Drawing 5]



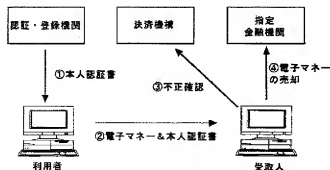
[Drawing 6]



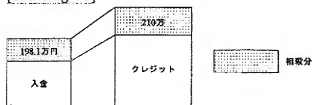
[Drawing 7]



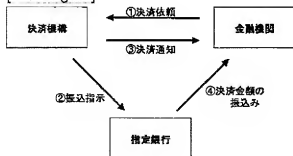
[Drawing 8]



[Drawing 10]

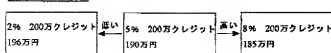


[Drawing 11]

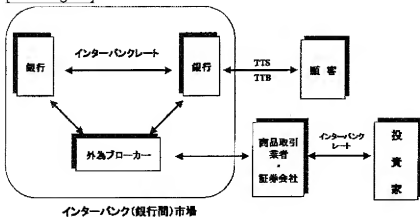


[Drawing 16]

クレジット→現金



[Drawing 12]

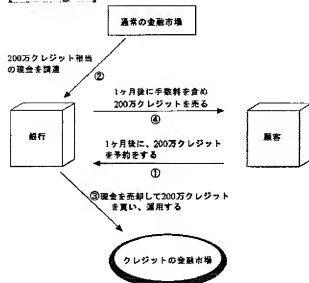


[Drawing 13]



	TTS	TTB	10万CR売り	10万CR買い
A銀行	2%	4%	9.8万円	9.6万円
B銀行	3%	6%	9.7万円	9.4万円

[Drawing 17]



[Drawing 18]

	クレジットの買い手	現金化流動性
承諾条件	プレミアムを付与	決済レート分割引されて決済
損益	益	損

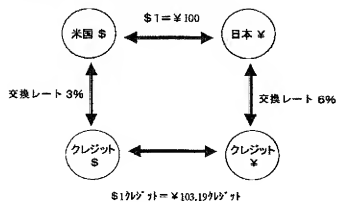
[Drawing 19]

	交換レートの上昇	交換レートの上昇
クレジット→現金	益	損
現金→クレジット	損	益

交換レートの上昇=クレジット高
交換レートの上昇=クレジット安

	クレジット金利
クレジット高	下がる
クレジット安	上がる

[Drawing 20]



[Drawing 21]

調達金利		A 社	B 社	差 (B-A)
スワップ前	固定	7%	9%	2%
	変動	0.75%	1.75%	1%
	コスト 格差	2-1=1%		
スワップ後	固定		8.5% (=9-0.5)	
	変動	0.25% (=0.75-0.5)		

[Translation done.]

----- Written amendment

Filing date May 1, Heisei 14 (2002.5.1)

Amendment 1

Document to be Amended Specification

Item(s) to be Amended Claim

Method of Amendment Change

Proposed Amendment**Claim(s)**

Claim 1 Is the settlement system provided with a server of a settlement mechanism which is connected with a terminal via a communications network and has a control section and a control program,
A control program includes an electronic money issuance program and an electronic money settlement processing program,

This electronic money issuance program performs processing which publishes a part for a premium chosen below from a premium rate set up beforehand, and electronic money according to the amount of payment,
A settlement system which computes settlement amount by an electronic money settlement processing program discounting a part for a settlement rate computed based on electronic money issued amount and issue ***** from electronic money for settlement of accounts.

Claim 2 A settlement system said settlement system has a customer account memory measure which manages and memorizes information on electronic money published to a customer for every customer, and using the electronic money according to claim 1.

Claim 3 A settlement system using the electronic money according to claim 1 having a means to distribute information about said total issue electronic money amount, and information about said issue *****.

Claim 4 Said settlement system is further,

A means to receive and register information about exchange transactions of electronic money from a customer,
A settlement system using the electronic money according to claim 1 having a means to perform exchange transactions, based on the exchange-transactions information concerned.

Claim 5 Said settlement system is further,

A means to receive and register information about futures trading of electronic money from a customer,
A settlement system using the electronic money according to claim 1 having a means to perform futures trading, based on the futures trading information concerned.

Claim 6 Said settlement system is further,

A means to receive and register information about call market trading of electronic money from a customer,
A settlement system using the electronic money according to claim 1 having a means to perform call market trading, based on the call-market-trading information concerned.

Claim 7 Said settlement system is further,

A settlement system characterized by comprising the following using the electronic money according to claim 1.
A means to receive and register information about an option transaction of electronic money from a customer.
A means to perform an option transaction based on the option transaction information concerned.

Claim 8 Said settlement system is further,

A means to receive and register information about a swap transaction of electronic money from a customer,
A settlement system using the electronic money according to claim 1 having a means to perform a swap transaction, based on the swap transaction information concerned.